IN THE CLAIMS:

Claims 1-8 (cancelled)

Claim 9 (previously presented): A method for detecting Gold code phase and carrier frequency in a GPS signal comprising the steps of:

collecting the GPS signal;

storing a one millisecond segment of the GPS signal in a memory;

converting the one millisecond segment of the stored GPS signal to the frequency domain;

multiplying the frequency domain representation of the one millisecond segment of the GPS signal by a frequency representation of a Gold code corresponding to a GPS satellite in view of the GPS receiver to obtain a product;

converting the product to the time domain to obtain a correlation signal; and

detecting a peak correlation signal as the Gold code phase.

Claim 10 (previously presented): The method recited in claim 9, further comprising the step of adjusting the carrier frequency of the one millisecond sample to make the peak more distinct.

Claim 11 (original): The method recited in claim 9, further comprising the steps of:

pre-computing the frequency representation of the Gold code; and

storing the pre-computed frequency representation of the Gold code in the memory.

Claim 12 (previously presented): The method recited in claim 9, further comprising the step of using a curve fitting routine to refine the location of the peak.

Claim 13 (original): The method recited in claim 9, further comprising the step of performing a half bin analysis to further refine the carrier frequency.

Claims 14-20 (canceled)

Claim 21 (New): A method for detecting Gold code phase and carrier frequency in a GPS signal comprising the steps of:

collecting a multiple millisecond portion of a composite GPS signal in a GPS receiver;

partitioning the multiple millisecond portion of the composite GPS signal into one millisecond segments;

converting each one millisecond segment to the frequency domain;

multiplying each of the converted millisecond segments by a frequency representation of a Gold code corresponding to a GPS satellite in view of the receiver to generate a product;

converting each product to the time domain to obtain a correlation signal between each millisecond segment and the Gold code;

determining a location of a peak in each correlation signal;

determining a frequency of a sine wave fitting complex values at the point of each determined peak location;

adjusting at least one correlation signal in accordance with the determined frequency of the sine wave;

summing point-by-point the points of the correlations;

calculating the magnitude of the summed correlations; and

determining a peak from the calculated magnitude.

Claim 22 (New): The method recited in claim 21, wherein only a few points around the estimated peak locations are chosen for processing.

Claim 23 (New): The method recited in claim 21, wherein the sine wave is determined using a FFT.

Claim 24 (New): The method recited in claim 21, wherein a correlation signal is adjusted through multiplication of a complex exponential having a value of the determined sine wave.

Claim 25 (New): A GPS receiver to detect a composite GPS signal comprising GPS signals from all GPS satellites in view of the GPS receiver, comprising:

an antenna to receive the composite GPS signal;

an FFT process to perform an FFT on individual one millisecond segments of the received composite GPS signal to produce a plurality of FFT segments;

a plurality of multipliers to multiply each FFT segment by a frequency representation of a GPS Gold code to generate a plurality of product vectors;

an inverse FFT process to convert each product vector to the time domain;

a magnitude calculator to calculate a point-by-point magnitude vector of each of the product vectors;

an adder to calculate a point-by-point sum of each of the magnitude vectors; and

a peak detector to determine a location of a peak as an estimate of the Gold code phase.